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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/224,759 01/04/99 FURUKAWA

T BU9-98-179

023123

NN92/0606

SCHMEISER OLSEN & MATTS  
18 E UNIVERSITY DRIVE  
SUITE # 101  
MESA AZ 85201

EXAMINER

GARCIA, J

ART UNIT

PAPER NUMBER

2823

DATE MAILED:  
06/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/224,759

Applicant(s)  
Furukawa et al

Examiner  
Joannie Adell Garcia

Art Unit  
2823



– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on 1/17/01

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 1-22 is/are pending in the application

4a) Of the above, claim(s) 3, 11-13, 16, and 18-22 is/are withdrawn from consideration

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1, 2, 4-10, 14, 15, and 17 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirements.

## Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2

20) ☐ Other: \_\_\_\_\_

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The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 1345. Correction is required.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 1375. Correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2, 4-7, 14, and 15, are rejected under 35 U.S.C. 102(e) as being anticipated by Ono (U.S. Patent 5,966,606).

Ono discloses forming a polysilicon portion 23 of a gate conductor on a substrate 21 having a semiconductor portion, and forming a nitrided film 27 on the surface of the polysilicon portion. Trimming of the polysilicon portion would be obtained in such a process because the same materials are treated in the same manner. He discloses that the nitrided film comprises selective surface nitridation. He teaches as well, selectively compensating n-channel and p-channel devices, and at least partially removing the nitrided film. He also discloses anisotropically

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etching the nitrided film, forming gate conductor spacers, and forming an additional oxide layer on the nitrided film. (Figures 4A-4E, Column 3 lines 10-11, and 21-24, Column 4, lines 21-26, 32-41, 47-51, and 62-64, Column 5, lines 10-22, and Column 6, lines 26-31).

Claims 8-10, and 17, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono as applied to claims 1, 2, 4-7, 14, and 15 above, and further in view of Moslehi et al (U.S. Patent 4,715,937).


Ono does not disclose forming the nitride film by the method of claims 8-10, and 17. Moslehi et al discloses laser enhanced nitridation of silicon to form a nitrided film (Column 2, lines 8-15). It would have been within the scope of one of ordinary skill in the art to combine Ono and Moslehi et al to achieve the formation of nitride film 27 of Ono. The examiner takes official notice that the use of  $\text{NH}_3$  as the nitridizing gas was known at the time of applicant's invention. It would have been within the scope of one of ordinary skill in the art to use the known gas process to achieve the nitridizing step of the combination of Moslehi et al and Ono, in view of the recognized suitability of such a step.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. See MPEP 203.08.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner J. Garcia whose telephone number is (703) 306-5733. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax number for this group is (703) 308-7722 (and 7724), and (703) 305-3431 (and 3432). MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

  
George Fourson  
Primary Examiner  
Art Unit 2823

  
JAG  
June 4, 2001